U.S. Patent Application No. 10/087,987
Attorney Ref. No.: 082137-0280712

I. PRELIMINARY AMENDMENT OF THE CLAIMS

Please enter the following amendment prior to substantive examination. This listing of claims will replace all prior versions, and listings, of claims in the application.

1-33. (Canceled)

34. (New) A method of treating a pre-malignant lesion or a malignant cancer in a subject, wherein the pre-malignant lesion or malignant cancer is characterized by the presence of activated matriptase, the method comprising:

(a) obtaining a biological sample from a subject;

(b) exposing the biological sample to a detectable agent that recognizes and binds to activated matriptase;

(c) detecting activated matriptase that is bound to the detectable agent in the biological sample; and

(d) administering to the subject an agent that blocks the activity of active matriptase.

35. (New) The method of claim 34, wherein the matriptase that characterizes the pre-malignant lesion or malignant cancer is produced by cells of an epithelial tissue.

36. (New) The method of claim 34, wherein the pre-malignant lesion or malignant cancer is present in a breast of the subject.

37. (New) The method of claim 34, wherein the pre-malignant lesion is atypical ductal hyperplasia of the breast and involves tissue remodeling.

38. (New) The method of claim 34, wherein the detectable agent is an antibody.

39. (New) The method of claim 38, wherein the antibody binds specifically to activated matriptase but not to inactive matriptase.

40. (New) The method of claim 39, wherein the antibody binds specifically to an activated two-chain form of matriptase, but not to inactive, single-chain matriptase.

41. (New) The method of claim 40, wherein the antibody is selected from M69 and M123.

42. (New) The method of claim 38, wherein the antibody is labeled with a detectable label.

43. (New) The method of claim 42, wherein the antibody is labeled with a radioisotope or a fluorescent label.

44. (New) The method of claim 43, wherein the antibody is labeled with a radioisotope selected from the group consisting of ^{62}Cu, ^{99}Te, ^{131}I, ^{123}I, ^{111}In, ^{90}Y, ^{188}Re, and ^{186}Re.

45. (New) The method of claim 34, further comprising exposing the biological sample to one or more antibodies that recognize inactive, single-chain matriptase, and determining the ratio of the amount of activated matriptase that is specifically bound by antibodies to the total amount of matriptase that is specifically bound by antibodies.

46. (New) The method of claim 45, wherein the antibody that recognizes inactive, single-chain matriptase is M32.

47. (New) The method of claim 34, further comprising detecting the presence and or measuring the concentration in the biological sample of matriptase cognate inhibitor HAI-1.

48. (New) The method of claim 34, wherein the biological sample is obtained by biopsy, nipple aspirate, or removal of body fluid that has come into contact with cells of a pre-malignant lesion or a malignant cancer of the subject.

49. (New) The method of claim 34, wherein the agent that blocks the activity of active matriptase binds specifically to and directly blocks the activity of activated matriptase.

50. (New) The method of claim 49, wherein the agent that blocks the activity of active matriptase is an antibody.